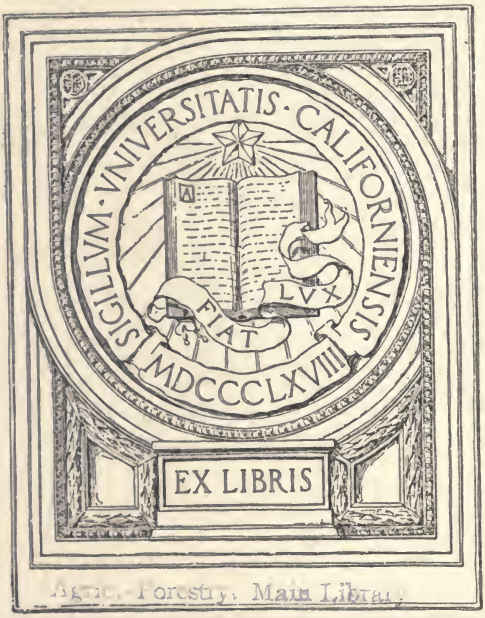

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THE UTILIZATION OF FOREST PRODUCTS IN MASSACHUSETTS

AS AFFECTED BY THE WAR

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THE UTILIZATION OF FOREST PRODUCTS IN MASSACHUSETTS AS AFFECTED BY THE WAR.

Introduction.

The war in which we are now engaged has wrought great changes in the field of forest utilization. Many of these changes have been kaleidoscopic in their action, and they are still going on. What was true a year ago, perhaps, does not hold true to-day, and very likely will be still different a year from now. This bulletin is written from a popular rather than a scientific point of view, in order that the woodland owner may know some of the conditions which now prevail, and be able to take advantage of them. There is bound to be a reaction after the war, but there is little probability that things will go back to their former status.

Of all our natural resources perhaps the forests were the last to be called upon to help win the war. The other two great sources of raw material — the field crops and the mineral reserves — felt the stimulation of war prices long before this country entered the conflict. It was not until we were in it, and the great programs for ships, airplanes, cantonments, etc., were under way, that the lumber business became a great and necessary factor.

Massachusetts forests have not been able to help in a large way as have those of many of her sister States. Of airplane spruce and ship timbers we have but little. However, our forests are doing their bit, and all that our State can furnish is needed.

White Pine.

White pine is our most important species. Its chief market has always been for box boards. The war has brought about a great increase in this demand. Most of our munitions have to

be boxed or crated for shipment, thus necessitating a tremendous quantity of wooden boxing material. The freight situation has until recently practically closed all outside sources of supply. The high price of paper has lessened the substitution of paper for wooden boxes. Under this great demand and lack of competition the price of box boards has nearly doubled. Production has greatly increased, but the demand still remains. Round edge box lumber has been sold as high as $40 a thousand feet delivered, and square edge, $5 or $6 higher. At this time a slight reaction is on, and it is the general opinion that prices will not go much higher. Some box shops favorably situated to a steady local supply of lumber are buying box boards at considerably less than the prices quoted. Some are paying less than $30 per M and claim to be getting all they need at that price. As always happens when prices rise rapidly, the increase is not the same in all sections. The seller should seek more distant markets if the local buyers are unwilling to pay the market price. The thicknesses most in demand have been 1 inch and $2\frac{1}{8}$ inches, which make the heavier material for export shipments.

While the price of box boards has soared, the demand for the better grades, such as are used in sash and blind manufacture, construction, etc., has remained stationary, or almost ceased. The very highest grades which are used in making patterns, or directly by the army or navy, have commanded high prices. The intermediate grades are not being sorted, but are turned into box boards with the rest. There is practically no market for them at present except as box boards. The $2\frac{1}{8}$-inch pine for match blocks is in good demand, and also the pine for toys, pails, etc.

A slight demand for white pine piling has arisen, due to the difficulty in getting spruce.

Hemlock and Spruce.

Hemlock is an important species in Massachusetts, while spruce is not found except in a limited area. The usual way of utilizing these species was to cut them into square edge or small dimension material. The demand for this has greatly diminished, and the price has not risen in proportion to that of

box boards. Both species can be sold as box lumber for about $2 to $3 under the price of pine, so that is the best way of utilization at present. There is a good market for both spruce and hemlock for pulp cut 4 feet long and peeled, but most of the pulp mills are in the north, and our local operators and labor are unaccustomed to that form of utilization, so little pulp is cut in Massachusetts.

Hemlock bark has again come into demand at about $15 a cord on the cars. At this price it certainly will pay to peel the larger hemlock.

Chestnut.

The market for chestnut is our most important consideration at this time. The chestnut blight has spread rapidly, and there seems to be no hope that it will cease as suddenly as it came. There is also no known practicable cure or preventive for it. Within a few years, or a decade at best, our second most important species will be gone. In the meantime we must have a market for it, or most of the dead material will be a total loss. Fortunately, there is at present a good sale for all chestnut large enough for lumber, although this market is different from that of several years ago. The prices have not gone up in proportion with the pine price. The present uses of chestnut may be classified as follows: —

1. *Poles, Posts, and Piling.* — There is practically no sale for posts, except local. The demand for poles is fair, but not as good as formerly. When the cantonments were in construction there was a very heavy demand. Since then, due to the policy of the telephone and light companies in doing as little new construction as possible, the demand has slackened, but there are bound to be a good many used for replacement and upkeep. The price of poles does not seem to have risen in proportion to the increase in lumber. The specifications and prices of the Western Electric Company, the largest single buyer of poles in New England, are appended herewith. They state that they will continue buying all the larger poles offered. Some chestnut piling has been bought lately by the railroads and also for fish weirs. That is a market worth looking into, as the sticks do not have to be peeled.

2. *Cross Ties.* — New prices and specifications have been

issued since the government took over the railroads. They are appended herewith. A maximum price has been fixed which applies to all lines in New England. Not all the roads are now paying the maximum price or buying all classes, but it is expected that before long they will. All ties must be sold to the road on whose lines they are delivered. They cannot be shipped from one road to another. It is intimated that the railroads will do the buying for the trolley lines. Hard times have hit the trolley lines, anyway. Many have been discontinued, and the rest are doing as little in the line of construction and repair as possible. Therefore the market for the small trolley ties seems to be poor. The new price for ties averages slightly higher than previously, but not in proportion to the increase in lumber. The price of the smaller ties is lower than it was previously on certain roads. The 6-inch tie with 5-inch face is no longer specified, and will not be taken except as a cull, price not known. The small tie is our mainstay from the point of view of utilization of our forests, and it is to be hoped that later on the Railroad Administration may rectify the matter of their price and size. Probably the reason for the low price is that the railroads want as few of the small ties as possible. Operators should take the hint and cut their production of small ties to a minimum. The smaller chestnut can be more profitably used as lumber, and at present prices of lumber the larger material also.

3. *Lumber.* — The chestnut lumber market is the promising feature of the whole situation. The almost universal disposition of chestnut lumber in Massachusetts before the war — that of sawing it $1\frac{1}{2}$ inches round edge for the chair factories — has been somewhat modified. The chair factories are still buying and paying good prices, but are not buying in increased amounts. In fact, their demand has slightly decreased. Chestnut has come into demand for box boards as a substitute for pine. For this purpose, it is sawed mostly 1 inch with some $\frac{5}{8}$ inch and $1\frac{1}{2}$ inches thickness. The price has been from $2 to $5 per M less than the price for pine, while a little mixed with the pine has been accepted without price reduction. Not all box shops will buy chestnut, but an increasing number will. In this way it is possible to utilize trees which will make only

small ties, or which will be too small to make ties at all. Some operators have been cutting chestnut down to 4 inches, but that is not advisable if a sure market for the lumber is desirable, 6 inches being a safer minimum diameter.

There is a good demand for the better grades of chestnut squared up from the butt, and good second logs. This lumber is being sold in place of the southern chestnut, graded No. 1 and No. 2 common. In thicknesses of 1 inch, $1\frac{1}{2}$ inches, 2 inches and thicker, 6 inches and up wide, it is commanding a price of from $40 to $55 per thousand feet delivered. Care should be taken, however, to saw this material full to thickness, so that it will dry to those sizes; also it must be stuck and dried properly. This material is used for coffins, finish, furniture, cabinet work, piano cases, construction, etc. Even higher prices might be realized if great care in sawing and grading is exercised. Wormy material cannot be sold in this class, nor can it be sold extensively for chair stock. Railroad ties and box boards are the best market for wormy chestnut. Some wormy lumber can be sold square edge, if it is sound, at a lesser price.

Some chestnut has been used for ship timbers, but it is doubtful whether that demand will continue.

Oak.

Oak is fast disappearing from the eastern section of the State, due to the gypsy moth. However, it is our most important hardwood tree, and in extensive demand at this time. The chief uses may be classified as follows: —

1. *Piling.* — White and red oak are in constant demand for piling. White oak is specified in some cases, but usually either may be used. The prices have ranged from 25 cents to $1 (for very large sticks) per running foot for the piles delivered. About all the larger piles must be from 7 to 8 inches diameter at the small end, and from 14 to 20 inches at the butt. Lengths run from 30 to 60 feet. All must be fairly straight and thoroughly sound. The chief difficulty with piling is in handling, as it requires special knowledge and equipment. It is not advisable to cut piles except on order, as they rapidly deteriorate.

Oak piles are easy to handle in connection with a chestnut pole operation.

2. *Cross Ties.* — All railroads now accept all the oak ties offered. White oak commands a higher price, and red oak a somewhat lower price, than does chestnut. The prices are not such as to make the manufacture of oak ties advisable except for knotty upper cuts and crooked, poorer grade logs.

3. *Car Stock.* — There is a great demand by the railroads for oak sawed into dimension stock and plank for car repairs. It cannot be sold except to the road on whose lines it is delivered. The price has recently been fixed at $40 on the cars for red oak, and $43 for white oak. This price is considerably below what the roads were paying before the price was fixed. Unless the price is increased, other classes of material offer a better market for oak. Before cutting car stock it is necessary to receive an order from some dealer or the purchasing agent of the railroad.

4. *Wagon and Ship Plank.* — This is the highest grade of oak produced. It should be cut only from the best butts and second cuts from large, sound trees. Thicknesses 2, $2\frac{1}{2}$, 3 and 4 inches. All should be sawed a little over, to allow for drying, and in as long lengths as possible. Prices range from $50 to $75 per M sawed round edge. Some prices for exceptional width and quality have been up to $100 per M. For ship building, larger timbers, especially those with crooks and bends, are in demand. These pieces often run up to 32 feet in length, and are flatted on two sides. There does not seem to be any standard price, but these timbers are usually sold by the stick.

5. *Chairs and Furniture.* — There is a very good demand for round edge oak of fair quality, sawed $1\frac{1}{8}$, $1\frac{3}{8}$, $1\frac{5}{8}$ and $2\frac{1}{8}$ inches for the chair and furniture shops. Prices run from $35 to $60 delivered, depending on quality, etc. Most buyers like to get this material log run without the best butts being taken out. This is the surest and easiest market for oak lumber.

6. There are a number of other miscellaneous markets for native oak, as for finish, machinery, bridges, baskets, etc. It is advisable to handle and saw the oak carefully if the best prices are to be obtained.

Hardwood.

Hardwood is the term usually applied to beech, birch and maple lumber. They are often sold without any distinction between species, or may be sold separately. There has always been a wide, but somewhat specialized, difficult and low-priced market for these species. The war has resulted in higher prices and increased demand. It can now be said that it pays to saw all hardwood of good size and quality. Chairs and furniture still make the chief outlet, sawed $1\frac{1}{8}$, $1\frac{3}{8}$, $1\frac{5}{8}$ and $2\frac{1}{8}$ inches. Birch has always been in fine demand for bobbins, shuttles and spools. Hardwoods are used in all kinds of machinery specialties, tools, toys, pails, etc. The new market is for railroad ties. These ties will be shipped to roads having creosoting plants. It is doubtful whether the price is high enough to pay an operator to cut beech ties unless he has a short haul and low operating costs. The price for hardwood lumber ranges from $28 to $40 delivered. Square edge and especially selected lumber might easily bring a higher price. No poor grade hardwood should be sawed, but put into cordwood.

Ash.

Ash is being used in airplane manufacture. For that purpose only very select material is taken, and the price is high. For wagons, sporting goods, agricultural implements and baskets there is a strong demand. Two and one-eighth inches is the standard thickness of ash, with some $2\frac{1}{2}$ and 3 inches. The basket makers use $1\frac{1}{4}$ and $1\frac{1}{2}$ inches also. The market for 1-inch ash is difficult.

Miscellaneous.

Poplar can be sawed as box boards and peeled for pulp or used for baskets (sawed $\frac{1}{2}$ inch). Basswood can be sold for box-boards or pulp also. It has a very good market sawed $2\frac{1}{8}$ inches for certain special manufacturers. Butternut and black ash can be sold as box boards. Hickory is very difficult of sale here in Massachusetts. Tupelo (or "hornbeam") can be sold in the log for rolls. Elm can be sold for ship building

and wagon manufacture chiefly. Cherry can be sold for chairs and furniture. There is a special war use for cherry, — airplane propellers, — but it takes a very high grade.

Cordwood.

Cordwood for fuel has been one of the great features of the past year. The price last February was as high in isolated instances as $12 to $13 a cord on the cars and $20 delivered. The price has now settled to about $8 to $10 a cord on the cars. It cannot go much lower than that with the present cost of labor and teams. We doubt very much whether there will be any such demand this winter as there was last, as there is much more wood cut. Very few of the woodland owners profited by those high prices last year. It went largely to the dealers and speculators. The market for chestnut wood is rather difficult. A limited amount can be sold from $1 to $2 under the price of hardwood. There is always a good demand for slabs and edgings for kindling wood. Owners should keep on cutting cordwood, but without the expectation of enormous profits. There is bound to be a good demand, and also a reaction after the present fuel crisis.

Labor.

The most difficult problem to-day for those wishing to produce lumber or wood is that of labor. It has steadily increased in cost, decreased in efficiency, and is now hard to find at any price. The cost of operating is surely double what it was three years ago, and the difficulties of operating are increased many fold. This must be borne in mind when the present high prices of products are considered. Labor is bound to get more scarce as the war continues.

Stumpage Value.

The value of lumber and wood stumpage of all kinds has unquestionably gone up in the last year. Pine lots have been sold as high as $20 per M on the stump, and cordwood as high as $4 per cord. Those prices are undoubtedly war prices, and will not last for long. However, pine stumpage is worth from $10

to $15 now, according to quality and location, for lots within a two-trip haul of the railroad, and will probably never go far back from those figures. More distant lots, or very small or difficult lots, are worth less than that. Chestnut, hemlock and spruce are worth from $2 to $3 less. Hardwood has about half of the value of pine. Oak and ash are worth more than pine.

Government Control.

The chief energies of the nation are to-day centered on the war. The government is slowly but surely heading all our forces so that they may directly contribute to the winning of the war. The lumber business must be prepared to do its share, if not voluntarily, then perhaps under government control. The recent embargo on the shipment on the railroads of all lumber and forest products is probably a step toward that end. It is now impossible to ship forest material (cordwood not included) on the cars without a permit, except to the government or to the railroads. At this writing the cause and effect of this embargo are not known. It may last for the duration of the war. Its effect will undoubtedly be to check the production of lumber for unnecessary uses, its shipment long distances, and the hoarding of lumber supplies. It will certainly stimulate the production of lumber for direct government use, and may result in lower prices and lessened production. The lumber producer must be prepared for anything. It is no time for speculation. Forest products are vital at this time, and the government will do nothing to hinder their production, but it will probably guide this production along necessary channels.

The Need of Forestry at the Present Time.

There never was a time when the need of forestry, of forest conservation, was greater than it is at present. We are undoubtedly, due to the impetus of the war, overcutting our forests, especially our pine forests here in Massachusetts; that is, we are cutting the lumber faster than it is growing. That means a shortage of lumber later, and the loss of wood-using industries which will go where they can get the raw material. Furthermore, we are cutting destructively, with no idea of the

future of the land. After the war, when we settle down to pay the bills, we shall see more clearly the need of thrift and conservation. More than half of our area is fit only for forests. Woods and lumber work is the mainstay of most of our rural communities, especially in the winter. We must use our forests carefully and wisely if we are to keep our population. Cordwood can be cut with an eye to future production, saving the species and trees that will make lumber. Lumber can be cut with an eye to the future, saving the reproduction, being careful with fires and replanting. A representative of the British Board of Agriculture said in a recent speech that if France and Italy had not practiced forestry and conservation, Britain would now be beaten. Our forest resources are more vital in an emergency than they are in the times of peace. We must look out for them carefully.

Help by the State Forester.

The State Forestry Department maintains as one part of its service a branch of operation and utilization. This branch is prepared to give advice, information and active aid to the forest owners and operators of the State. This bulletin does not contain specific names of industries or persons buying or selling forest products or woodlands. Conditions are changing so rapdily that it was deemed impossible to print such information at this time. A large quantity of such information is on file, however, at the State Forester's office, and will be given on application. Specific questions or problems will be gladly answered. Estimates and valuations of woodlands will be made on application. The only cost is the payment of traveling expenses. Lumbering and cordwood operations will be carried on in co-operation with the owner, if the work be done along forestry lines, and the owner can furnish all the capital necessary for the operation.

Chestnut Poles.

Specifications.

All poles shall be of sound, live, white chestnut, squared at both ends, straight, well-proportioned from butt to top, peeled and knots neatly trimmed to the surface of the pole.

The dimensions of the poles shall be according to the following table: —

The "butt" circumference, 6 feet from the butt.

The "top" measurements, the circumference at the top of the pole.

Poles not conforming to specification will be rejected or cut back to the next shorter length.

Trees to make the following size poles should be 5 inches larger overbark 6 feet from the butt: —

Dimensions of Poles by Inches (Circumference).

Length of Pole (Feet).	Class "A."		Length of Pole (Feet).	Class "B."		Length of Pole (Feet).	Class "C."	
	Top (Inches).	Six Feet from Butt (Inches).		Top (Inches).	Six Feet from Butt (Inches).		Top (Inches).	Six Feet from Butt (Inches).
25	24	36	25	22	33	20	20	30
30	24	40	30	22	36	25	20	30
35	24	43	35	22	40	–	–	–
40	24	45	40	22	43	–	–	–
45	24	48	45	22	47	–	–	–
50	24	51	50	22	50	–	–	–
55	22	54	55	22	53	–	–	–
60	22	57	60	22	56	–	–	–

Prices F. O. B. Point of Shipment.

	Each.
20 feet, Class C,	$2 00
25 feet, Class C,	2 25
22 feet, Class A,	2 75
25 feet, Class B,	2 75
25 feet, Class A,	3 75
30 feet, Class B,	3 75
30 feet, Class A,	5 00
35 feet, Class B,	6 00
35 feet, Class A,	7 50

United States Railroad Administration.

Specifications for Cross Ties.

Grade No.	Squared.	Flatted.
1,	– –	6 x 6 inches.
2.	6 inches thick, 7-inch face,	6 inches thick, 7-inch face.
3,	6 inches thick, 8-inch face,	6 inches thick, 8-inch face. 7 inches thick, 7-inch face.
4,	7 inches thick, 8-inch face,	7 inches thick, 8-inch face.
5,	7 inches thick, 9-inch face,	7 inches thick, 9-inch face.

Maximum Prices.

	Grade 1.	Grade 2.	Grade 3.	Grade 4.	Grade 5.
White oak,	$0 60	$0 70	$0 95	$1 20	$1 35
Chestnut,	50	70	90	1 10	1 10
Red oaks,	40	50	75	1 00	1 10
Beech, birches, hard maples,	40	50	75	90	95

Ties 8 feet are 6 per cent. less in price than above.

Quality. — All ties shall be free from any defects that may impair their strength or durability as cross ties, such as decay, splits, shakes or large or numerous holes or knots.

Manufacture. — Ties ought to be made from trees which have been felled not longer than one month.

All ties shall be straight, well-manufactured, cut square at the ends, have top and bottom parallel, and have bark entirely removed.

Dimensions. — All ties shall be 8 feet 6 inches long.

All ties shall measure both sections between 20 and 40 inches from the middle of the tie; and dimensions given are minimum.

Ties over 1 inch more in thickness, over 3 inches more in width, or over 2 inches more in length will be degraded or rejected.

The top of the tie is the plane farthest from the pith of the tree, whether or not the pith is present in the tie.

Delivery. — All ties ought to be delivered to a railroad within one month after being made.

New Tie Prices Effective November 1, 1918

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
White Oak	.80	.90	$1.10	$1.20	$1.35
Chestnut	.80	.90	1.10	1.20	1.35
Red Oak	.60	.70	.90	1.00	1.15
Beech, Birches, Hard Maples	.60	.70	.90	1.00	1.15

8-feet Ties 10 cents each less

Prices for Car Timber: White Oak, $50.00 per M. Red Oak, $47.00 per M

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